KANSAS
DEPARTMENT OF HEALTH AND ENVIRONMENT

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FOR IMMEDIATE RELEASE:
May 8, 2007

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KDHE Provides Health and Safety Recommendations in Response to Flooding

The Kansas Department of Health and Environment (KDHE) is providing the following recommendations to protect public health and safety, in response to flooding that has occurred in various parts of the state:

Boil water from flooded private wells before consuming: If a drinking water well has been flooded, the water may not be safe to drink because of potentially harmful microbes that might have entered the well with floodwaters. Take these precautions before consuming water from private wells that have been flooded:

1. Bring water to a vigorous rolling boil and sustain boiling for a minimum of one minute. Boiling longer than three minutes may adversely affect the quality and taste of the water.
2. Use only boiled or bottled water for drinking, diluting fruit juices, and all other food preparation.
3. Dispose of ice cubes and do not use ice from a household automatic icemaker. Remake ice cubes with water that has been boiled.
4. Disinfect dishes and other food contact surfaces by immersion for a least one minute in clean tap water that contains one teaspoon of unscented household bleach per gallon of water.
5. Water used for bathing does not generally need to be boiled. Supervision of children is necessary while bathing so that water is not ingested. Persons with cuts or severe rashes may wish to consult their physicians.
6. If you believe your well has been contaminated with chemicals, avoid consuming well water. Boiling will not necessarily reduce chemicals.

Instructions for cleaning and disinfecting flooded private water wells:

1. Pump the well out thoroughly to remove all floodwater.
2. Remove all mud, silt, and sediment from the well. The walls and curbing of dug wells should be washed down to remove any mud or sediment that may have collected on the walls. Bailers may be needed to remove mud from the bottom of the wells.
3. Repair the well, if necessary, to prevent surface water from entering the well. Sediment in a drilled, cased well reaches the groundwater through rapid percolation in sandy or alluvial soils or by direct flow among the casing of improperly grouted wells.
4. Pump the well until the water runs clear.

5. Disinfect the well. For drilled wells, mix one gallon of unscented laundry bleach containing at least 5.25-percent active ingredient (Clorox, Purex, etc.) with four gallons of water. These five gallons of chlorine solution should be sufficient to disinfect 100 gallons of well capacity. Most domestic private wells will have a volume of less than 100 gallons. For instance, a 4-inch well that is 100 feet deep will have a volume of 65 gallons. For hand-dug wells, use two gallons of bleach. Pour this solution into the well and mix. For shallow wells, a reinforced garden hose may be used to distribute the solution in the well vertically. Run water from each tap and faucet until the smell of chlorine is present. When the chlorine smell is present at all outlets, allow the chlorine to remain in the system for 12 hours. After this period of time, run the water until the taste and smell of chlorine is no longer present.
6. Approximately 10 to 14 days after the well has been cleaned, repaired, and disinfected, the local health department should be contacted to collect a sample for bacterial analysis.

Food Safety: Before considering a food product safe, carefully inspect it. Many products can become contaminated even if they are in a container. When in doubt, throw it out. Don't eat or save the following foods if they have come into contact with floodwaters:

- Any food items remaining in opened containers or packages, foil or plastic-wrapped packages, unopened jars and bottles with paper seals like mayonnaise or with paraffin seals like jams and jellies, or containers with non-sealed, fitted lids like cocoa or baking powder.
- Spices, seasonings, flavorings, sugar, coffee, flour and other grains.
- Any food items in paper, cloth fiber, or cardboard boxes even if they seem dry (e.g., cereals, pasta, rice, cookies, and crackers).
- Food items stored in containers with dented seams, or which are bulging, rusty or leaking, and cans which have been tossed about and are found far from their normal storage spot.
- Commercially bottled carbonated beverages like soda if the cap is crusted with silt.
- Fresh foods including vegetables and fruits or meat, fish and poultry.

KDHE recommends against trying to salvage garden produce, but if you do, thoroughly wash and disinfect before eating it. Wash the produce in a strong detergent solution with a scrub brush to remove silt. Follow this by immersing produce in a cold chlorine solution for 15 to 20 minutes. Rinse thoroughly with safe drinking water. Peel, if possible, and heat before eating. Since household bleaches contain different percentages of chlorine, the following dilutions should be used:

- 2-percent chlorine: add 4 tablespoons per gallon water,
- 4-percent chlorine: add 2 tablespoons per gallon water,
- 6-percent chlorine: add 1 tablespoon per gallon water.

Efficient and careful cleaning after a flood helps to curb sanitation problems resulting from the contaminants carried in floodwaters. These contaminants include silt, oils, chemicals, and raw sewage. Rodents and insects often find a haven in the mess left from the floodwaters.

Cleaning up your home: Basements hit by floodwaters require disinfecting and cleaning. Don't remove water from the basement too quickly or the pressure from the saturated soil surrounding the basement may cause the walls to collapse. To help air out the basement, open windows and doors. Window exhaust fans can be helpful, but take care in selecting a place to put the fan to avoid risk of electrical shock. Before beginning a flood clean-up, check to see if your tetanus booster shot is current. Tetanus shots are available at local health departments and many physician offices.

Sewage backup: If a sewage backup has occurred, the following steps should be taken to clean up the area:

1. First of all, remove the remaining standing water. Materials which have been water soaked should be removed. Such items could include bedding, rugs, upholstered furniture, boxes carpeting and padding and papers.
2. With the electricity turned off, electrical outlets should be opened and drained and allowed to dry. Ductwork should also be drained and allowed to dry.
3. Walls and hard-surfaced floors should be cleaned with soap and water and disinfected with a solution of one-half cup of bleach to one gallon of water. Thoroughly disinfect any food service areas or areas where children play.
4. Wash all linens in hot water or have them dry cleaned. Steam clean all carpeting, if salvageable. If not, discard. All carpet padding should be discarded.
5. If insulation and sheetrock have become wet it will need to be removed. Allow plenty of time for drying before reinstalling insulation to prevent mildew.

Personal Hygiene for Cleaning Sewage Backup:

- Wear rubber boots and waterproof gloves during a cleanup of sewage.
- Wash hands with soap and water before preparing or eating food and after handling articles contaminated with sewage.
- Avoid smoking while working in the sewage-contaminated water.
- If you have any cuts or sores which will be exposed to this water wash them thoroughly afterwards to control infection. If a wound develops redness, swelling, or drainage, seek immediate medical attention.
- Disinfect toys using a solution of 1/8 cup of unscented bleach in 2 gallons of water.
- Anyone receiving a puncture wound or a cut while cleaning up should have a doctor determine whether a tetanus booster is necessary.

Carbon monoxide (CO) poisoning: Generators and gasoline engines are often used when there are power outages. CO is a poisonous gas is found in combustion fumes, such as those produced by small gasoline engines, stoves, and generators. CO cannot be seen or smelled and can kill in minutes. Tips to avoid CO poisoning:

- Never run a generator or any gasoline-powered engine inside a basement, garage, or other enclosed structure, even if the doors or windows are open, unless the equipment is professionally installed and vented. Keep vents and flues free of debris, especially if winds are high. Flying debris can block ventilation lines.
- Never run a motor vehicle, generator, or any gasoline-powered engine outside an open window, door, or vent where exhaust can vent into an enclosed area.

How to Recognize CO Poisoning:

Exposure to CO can cause loss of consciousness and death. The most common symptoms of CO poisoning are headache, dizziness, weakness, nausea, vomiting, chest pain, and confusion. People who are sleeping or who have been drinking alcohol can die from CO poisoning before ever having symptoms. If CO poisoning is suspected, consult a health care professional right away.

Mold cleanup: Take things that were wet for two or more days outside. Things that stayed wet for two days have mold growing on them even if you can't see it. Take out stuff made of cloth, unless you can wash them in hot water. Also take out items that can't be cleaned easily (like leather, paper, wood, and carpet). Use bleach to clean mold off hard surfaces (like floors, stoves, sinks, certain toys, countertops, flatware, plates, and tools). Follow these steps:

- Never mix bleach with ammonia or other cleaners.
- Wear rubber boots, rubber gloves, goggles, and dust mask.
- Open windows and doors to get fresh air when you use bleach.
- Mix no more than 1 cup of bleach in 1 gallon of water.
- Wash the item with the bleach and water mixture.
- If the surface of the item is rough, scrub the surface with a stiff brush.
- Rinse the item with clean water.
- Dry the item or leave it out to dry.

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